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Review Paper

Review Article on Effervecent Grannules

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ABSTRACT

Pharmaceutical formulations known as effervescent granules are made to dissolve in water and release carbon dioxide, creating a fizzy solution. Along with acids and carbonates like sodium bicarbonate and citric acid, which react when dissolved, they also contain active substances. These granules increase patient compliance, conceal off-putting flavors, and improve drug stability. They are frequently used for vitamin supplements, antacids, and analgesics. Effervescent granules have the benefits of increased palatability, simplicity of administration, and quick absorption. However, because moisture might cause early reactions, they must be properly packaged to avoid exposure. The stability and effectiveness of effervescent pharmaceuticals have been improved by advancements in formulation technology, making them a popular option for both prescription and over-the-counter medications.

INTRODUCTION

1. EFFERVECET

Quadrant granules are among the most widely used oral dosage forms. The majority of medications, including cough formulas, pain relievers, and measures, were manufactured as foam granules. Oral medications and foam bases including sodium bicarbonate, citric acid, and tartaric acid are manufactured from protective grains. (1) Many medications, including cough remedies, antacids, and painkillers, contain foam granules. (4) When water is present, reactions

between bases and acids result in the production of CO₂ and the quick dispersion of granules. Taste masking works well since the CO₂ release lets you see the API resolution underwater.

$$3\text{HCO}_3(\text{AQ}) + \text{H}_3\text{C}_6\text{H}_5\text{O}_7(\text{AQ}) \rightarrow 3\text{H}_2\text{O}(\text{AQ}) + 3\text{CO}_2 + \text{NA}_3\text{C}_6\text{H}_5\text{O}_7(\text{AQ})$$

(Citric Acid) (Citric Acid) (Hydroxy Physical) (Water) (Carbon) (Sodium Carbon) (Citric Acid) (Citric Acid)

2. MECHANISM OF GRANNULES

As we already know, it contains luminescent granular acid (citric acid) and base (sodium b

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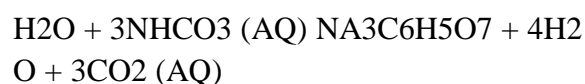
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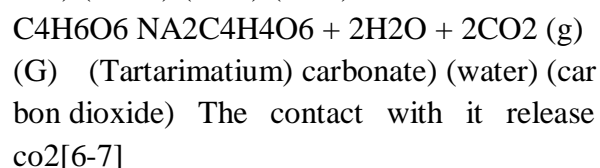


icarbonate), which reacts quickly with water.

The release of CO₂ gases helps the API dissolve with water, improving taste masking effects.



(citric acid) (sodium bicarbonate) (sodium citrate) (water) (Wed) (Wed)



3. THE INGREDIENTS REQUIRED FOR THE FOAMING OF GRANULES ARE ACID AND BASE. YOU ALSO NEED SWEETENERS AND BINDERS. [3]

1. Acids Includes citric acid, tartar acid, obesity, obesity, fumaric acid.
2. Bases Contains sodium carbonate, sodium carbonate, sodium carbonate, potassium bicarbonate, and sodium ring sodium.
3. Cute cl oth mannitol, sucrose.
4. Bind Agent - Starch Paste.
5. Vehicle - (Nonaqueous Act. [3])

4. INGREDIENT USE IN PREPARATION OF GRANULES [8]

Table 01: Ingredients use in foaming granules.

1. Aspirin active ingredient 250.0 mg
2. Citric Acid - Sorbyl Agent 10.0 mg
3. Calcium Carbonate - Sorbyl Agent 10.0 mg
4. Sucrose use as sweetener 1.0 mg
5. Magnesium Stearate Agent 2.0 mg
6. Strength binder/damping 10.0 mg
7. Water binder Q.S.

5. METHOD OF PREPARATION OF GRANULES

Steps to use:

- I. All ingredients pass through Sieve No. 60
- II. Mix the powder and send it to a hot porcelain bowl and dry the granules at 40°C
- III. Pass mixture into Sieve No. 14 and No. 20
- IV. The granules dried with Sieve No. 14 were packed with these granules in large mouth capsules.

6. PREPARATION OF FOAM GRANULES

Efficient granules are manufactured using a variety of methods, including wetting methods, drying or fusion methods, hot melt and tired techniques, and inhumane methods.

• WET GRANULE SYSTEM METHOD

This is the oldest method of granule preparation.

- I. First, all components are derived from the powder and by sieve to induce uniform particle size. [10]
- II. In the tactile process, wet mass is an important step.
- III. This process adds powder mixture and wetting. [11]
- IV. The wet powder mixture is guided to a network screen for creating granules of the desired size. next, these granules are dried on a hot air stove. [12]

• HOT ENVIRONMENT -FUSION [13.5]

Initially, ingredients required until the melt mass is preserved is heated at a temperature 50°C. and get granules. They build dry granules at a temperature of less than 60°C. The procedure measured and systemed the weight of the material. At the temperature of C, the "50" column is melted by melted mass "cooling at room temperature" and then consume 10 sieve to input dried granules is at a temperature of less than 60 ° C. Merged or drying method [14] This method is most important for preparing granules. This method removes the



compressions.]. Use a single sewage acid citrate binder, cool it at in the room temperature, keep granules, dry it. The absence of IV [15] compares and considers the materials and turns on the Chinese kitchen. Alcohol drops (ethanol) SIEVE No. 10, adding drops in the shape of stored granules, and. The granules are completely stored.

7. ASPIRIN

Aspirin created an acetyl salicylic acid (ASA) brand to produce pain, inflammation and monopoly in the anti-inflammatory drug (NSAID). Certain inflammatory Kawasaki disease, pericarditis and rheumatoid columns. [16] Aspirin used to treat aschemic pain, blood clots and heart attacks. Aspirin works like other NSAIDs, y, there is a high risk of bleeding and taking alcohol, other NSAIDs and other blood diluents. Aspirin is not recommended at the end of pregnancy. In general, it is not recommended for children with infectious diseases because of the risk of rei syndrome. [16] This about 40,000 tons per year (44,000 tons) (50 to 111 billion). [17] List of major drugs of the World Health Organization (WHO). [18] In 2022, it was the 36th most frequently prescribed to the drug therapy with more than 16 million recipes in the United States. [19][20] Chemical characteristics Gradually hydrated in contact with moisture, vinegar, salicylic acid [26] NIOSH (National Institute of Security and Labor Hygiene) [23]

The synthesis of aspirin from salicylic acid, process is called acetylation. [21-22]

water acid is treated as a mountain blouse, which leads to a chemical reaction that converts the hydroxyl group of Salicylic acid to an essential group (R-OH-R-COOCH₃). This process provides aspirin and acetic acid. Therefore, it is recommended without water. [25]. The physical properties of the acetyl derivatives of the salicylic acid are white, crystalline weak acid materials dissolved at 136 ° C (277 ° F) [27] and decomposed at 140 ° C (284 ° F). [28] Constant

acidity (PKA) [29] [30]. Many drugs are approved by the regulatory organs only for a single polymorphism form. [31] Only the polymorphism of aspirin (form I) has been proven until 2005, but since the 1960s, other polymorphisms discussed, and the report has been discussed since 1981. At that time, control impurities, but if you look back, it was an II Ashma. [32]

8. MEDICAL USE

Aspirin is used in the treatment of a number of conditions, including fever, pain, rheumatic fever, and inflammatory conditions, such as rheumatoid arthritis, pericarditis, and Kawasaki disease. [11] Lower doses of aspirin have also been shown to reduce the risk of death from a heart attack, or the risk of stroke in people who are at high risk or who have cardiovascular disease, but not in elderly people who are otherwise healthy. [33] There is evidence that aspirin is effective at preventing colorectal cancer, though the mechanisms of this effect are unclear. [34].

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